



# NASA Procedural Requirements

**COMPLIANCE IS MANDATORY****NPR 8820.2E**Effective Date: October 07,  
2003Expiration Date: October 07,  
2008[Printable Format \(PDF\)](#)

---

## Subject: Facility Project Implementation Guide

**Responsible Office: Facilities Engineering and Real Property Division**

[| TOC](#) | [Preface](#) | [Chapter1](#) | [Chapter2](#) | [Chapter3](#) | [Chapter4](#) | [Chapter5](#) | [Chapter6](#) | [AppendixA](#)  
| [AppendixB](#) | [AppendixC](#) | [AppendixD](#) | [AppendixE](#) | [AppendixF](#) | [AppendixG](#) | [AppendixH](#) |  
[image022](#) | [image023](#) | [Image3-1](#) | [Image\\_G-1](#) | [ALL](#) |

## CHAPTER 6: Activation

---

This chapter provides guidance for facility activation, which is the final process prior to beneficial use of a new or renovated facility. The FPM is responsible for the activation process, which includes the following:

- a. Facility outfitting,
- b. Subsystems and integrated systems tests,
- c. Final inspection and acceptance of the outfitted facility,
- d. Final cost closeout, and
- e. Facility turnover to the Customer and O&M organizations.

Several of these activities involve or may be the principal responsibility of others. For example, subsystem testing is usually the responsibility of the contractor or subcontractor supplying or installing the system. Nonetheless, the FPM is responsible for coordination and completion of these tasks.

### 6.1 Facility Activation Plan

During the design process an Activation Plan (see paragraph 4.9, Facility Activation Plan, for details of the Activation Plan including its content) should have been prepared and during the construction phase the plan should have been updated and expanded as necessary (see paragraph 4.9.1.2). This plan outlines the steps in the facility activation process with milestones to measure progress. It also identifies the budgets necessary to implement the activation elements (see Appendix C, Forms and Instructions, NASA Form 1510, Facility Project Cost Estimate, for related cost which provides a list of possible elements.)

6.1.1 Schedule. A typical CoF project schedule including activation is shown in Figure 2-4. The Facility Activation Plan (see paragraph 4.9, Facility Activation Plan) contains network bar-type charts depicting a time-phased schedule with milestones for all of the activation activities. This schedule must be revised as more details become available, planning changes, or events occur that effect the schedule in order to provide a working schedule for the activation phase.

6.1.2 Checklist. The following provides a checklist of necessary items (including completion of construction contract items awaiting punch list completion and noncollateral equipment installation) for the activation process:

- a. Activation plan,
- b. Latest approved 1509,
- c. Long form writeup input (budget/scope),
- d. Projected O&M cost,
- e. Noncollateral equipment installation,

- f. Subsystem tests (list each, list test limits where applicable, and the PT&I technology to be used where applicable),
- g. Integrated systems test plan,
- h. Integrated systems safety review,
- i. Integrated systems test,
- j. Operational readiness review,
- k. Facility systems training (each system),
- l. O&M instructions; PT&I, and CMMS information; and manuals,
- m. Prefinal inspections,
- n. Final inspections,
- o. Punch list (close out),
- p. Facility and systems as-builts,
- q. Warranty transfer,
- r. Final facilities construction contract closeout,
- s. Contractor performance records,
- t. Data systems design,
- u. Data systems installation,
- v. Systems furniture design,
- w. Systems furniture purchase,
- x. Systems furniture installation,
- y. Telephone installation,
- z. Personnel move in, and
- aa. Turnover to customer and O&M organization.

## 6.2 Activation Budget

6.2.1 Budget planning for activation should start early enough in the planning phase of the project to properly indicate the estimated costs associated with all tasks necessary to verify the facility meets the project requirements; systems operate within the design parameters; and the facility and operating organization are ready to use and maintain the facility. The budget planning should have included all costs necessary to outfit the facility for personnel move in and its intended operation (i.e., installation of ground support equipment, integration and checkout of combined facility and noncollateral equipment systems, installation of computer data wiring and systems, installation of systems furniture, and installation of telephone systems). All costs to demonstrate acceptance of an operable facility should be included in the planning.

6.2.2 NASA Form 1509 should indicate the activation costs (described above) associated with the project (see Appendix C, Forms [1509](#) and [1510](#)). The long form writeup should also include the activation costs and scope.

## 6.3 Facility Outfitting

Projects or tasks associated with facility outfitting (see Appendix A, Definitions, for "[outfitting](#)" definition) are not funded from the CoF appropriation; they should be funded from non-CoF appropriations. The following are when facility outfitting begin:

- a. Beneficial or joint occupancy is taken of the facility or a portion of the facility, and
- b. The construction of the facility project or a portion of the facility, such as a work package or a specific area, is complete and has been accepted by the Government.

6.3.1 Facility outfitting includes the following (for more detail see [Appendix D](#), Facility and Other Related Costs):

- a. Noncollateral equipment installation,
- b. Data systems installation,

- c. Systems furniture installation,
- d. Telephone installation,
- e. Furniture and equipment move in,
- f. Personnel move in, and
- g. Maintenance services startup.

## 6.4 Completion and Acceptance of Activation Installed Systems

During the activation of a facility noncollateral equipment and systems may be installed to outfit the facility so it may perform its intended function. The equipment and/or systems may contain latent defects due to manufacturing and/or installation practices or do not operate per design either independently or when interfaced with the facility and/or its equipment and/or systems. Defects could not only cause premature failures and increased O&M cost for these items but could also affect the facility systems and equipment or other equipment they interface with causing similar problems. Therefore, inspections of the equipment and systems should be made to verify that they meet design parameters prior to placing the equipment/systems in operation.

6.4.1 Subsystem Tests. Subsystem testing is required to ensure that the noncollateral equipment or standalone subsystems are functioning properly and within specifications prior to placing them in operation or performing a full integrated systems test. Test plans should be written to provide guidance during testing and records of the results should be maintained. The plans must include the use of Reliability Centered Facilities and Equipment Acceptance utilizing PT&I technology as described in [NASA's Reliability Centered Building and Equipment Acceptance Guide](#) where applicable. The test plans can be simple or complex depending on the complexity and interaction of the test parameters.

6.4.2 Integrated Systems Test. The integrated systems test is an end-to-end complete test of a total system. This test may be required when equipment has been added to a system during outfitting.

6.4.3 The noncollateral equipment and systems installed during activation are normally the responsibility of the user. The user will operate and maintain the equipment and systems or make arrangements with the Center maintenance organization or an outside contractor to perform these functions.

## 6.5 Facility Operation and Maintenance (O&M) and Training Considerations

O&M and training can extend beyond the construction stage of a project and into the activation stage. Complex technical projects usually require additional operator training and certification after the construction contractors have completed their responsibility. In addition, operating organizations will typically write a more detailed facility operation and maintenance plan that includes the interfaces and operating procedures with other systems and facilities. These additional requirements should be included in the activation plan and budgets.

## 6.6 Facility Completion

The objective of the FPM is to provide a completed facility that meets the functional requirement on schedule and within the approved funds. The successful completion of the activation phase completes the facility's project and brings to an end the responsibilities of the FPM. The facility is now the responsibility of the customer and the Center's maintenance and operations organizations.

[TOC](#)	[Preface](#)	[Chapter1](#)	[Chapter2](#)	[Chapter3](#)	[Chapter4](#)	[Chapter5](#)	[Chapter6](#)
[AppendixA](#)	[AppendixB](#)	[AppendixC](#)	[AppendixD](#)	[AppendixE](#)	[AppendixF](#)		
[AppendixG](#)	[AppendixH](#)	[image022](#)	[image023](#)	[Image3-1](#)	[Image\\_G-1](#)	[ALL](#)	

| [NODIS Library](#) | [Program Management\(8000s\)](#) | [Search](#) |

**DISTRIBUTION:**  
**NODIS**

---

**This Document Is Uncontrolled When Printed.**

Check the NASA Online Directives Information System (NODIS) Library  
to Verify that this is the correct version before use: <http://nodis3.gsfc.nasa.gov>

---